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REMARKS / DISCUSSION OF ISSUES

Claims 1-7, 12-17, and 22-40 are pending in the application. Claims 33-40 are newly added to restore the claims to their original form prior to the now-withdrawn restriction requirement. No new matter is added.

The applicant thanks the Examiner for determining and acknowledging that the drawings are acceptable.

The Office action rejects claims 22-24 under 35 U.S.C. 101. The applicant respectfully traverses this rejection, but, in the interest of advancing prosecution of this application, claim 22 is amended to recite that the claimed computer program is embodied on a computer readable medium. Accordingly, the applicant respectfully requests the Examiner's reconsideration of the rejection of claims 22-24 under 35 U.S.C. 101.

The Office action rejects claims 1-6, 12-17, 22-25, 28-30, and 32 under 35 U.S.C. 102(e) over Ng et al. (USPA 2006/0274917, hereinafter Ng). The applicant respectfully traverses this rejection.

MPEP 2131 states:

"A claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The *identical invention* must be shown in as *complete detail* as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claim 1, upon which claims 2-7 and 25-28 depend, claims a traffic monitoring system that includes a pattern recognizer that identifies headlight patterns in a recognition zone that corresponds to a segment of a field of view of a camera wherein reflected light is substantially diminished and projected light from the headlights is received directly.

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Claim 12, upon which claims 13-17, 29-30 and 32 depend, claims a method that includes identifying headlight patterns within a recognition zone of an image, wherein the recognition zone corresponds to a segment of a field of view of a camera wherein reflected light is substantially diminished and the projected light from the headlight is received directly.

Ng fails to teach a recognition zone that corresponds to a segment of a field of view of a camera wherein reflected light is substantially diminished and the projected light from the headlight is received directly, as specifically claimed in each of claims 1 and 12.

The Office action references Ng's paragraphs [0121] and [0125] for teaching that the reflected light from headlights is diminished. However, these paragraphs do not teach a recognition zone in which the reflected light is substantially diminished. To the contrary, Ng's recognition zone (ROI) encompasses the regions where both the headlights and their reflection are of substantial intensity. Ng's Figure 25 illustrates an example region of interest that includes both the headlight peaks and headlight-reflection peaks.

As taught and claimed by the applicant, the detection of a headlight pattern is performed within a recognition zone where the headlight beams are received directly and the reflections are substantially diminished (see, for example, segment S in applicant's FIG. 4D and paragraphs [0029]-[0030]). Restricting the recognition zone provides computational advantages:

> "Because each recognition zone is defined as a segment of the field of view of the camera in which direct reflections from headlight beams do not appear, and direct projections from the headlights do appear, the use of conventional thresholding and pattern recognition techniques can be expected to provide highly reliable results." (Applicant's [0032], second sentence.)

Conversely, because Ng's recognition zone includes these headlight-reflection peaks, Ng must apply the process detailed at paragraph [0126] through [0130] to distinguish the headlights from the reflection based on an intensity gradient measure $G_H(y)$ and a measure of the width of each peak $W_H(y)$.

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Because a recognition zone that includes the reflections at their maximum intensity, as taught by Ng, cannot be said to correspond to a zone wherein the reflections are substantially diminished, the applicant respectfully maintains that Ng does not teach each of the elements of the applicant's claimed invention. Accordingly, per MPEP 2131, the applicant respectfully requests withdrawal of the rejection of claims 1-6, 12-17, 25, 28-30, and 32 under 35 U.S.C. 102(e) over Ng.

Claim 22, upon which claims 23-24 depend, claims a computer program that causes a processing device to distinguish vehicles from reflections based on tracks of the illumination patterns in a series of images. The applicant notes that newly restored claims 33 and 37 include similar limitations.

Ng does not teach distinguishing vehicles from reflections based on tracks of the illumination patterns in a series of images.

As noted above, Ng specifically teaches distinguishing vehicles from reflections based on an intensity gradient measure $G_H(y)$ and a measure of the width of each peak $W_H(y)$. Ng's FIG. 25 and the accompanying text at paragraphs [0125]-[131] clearly indicate that these gradients and peaks are determined from a single image of the recognition zone (ROI).

The Office action references Ng's paragraph [0143] for teaching the use of sequences of images. The applicant notes, however, that Ng's paragraph [0143] is within section "5.3.1 Profile-Speed-Extraction" of Ng's disclosure, whereas the distinguishing of vehicles from reflections is presented within prior section "5.2.4 Vehicle-Night-Detection" of Ng's disclosure. Ng's Figure 26 clearly indicates the detection of vehicles based on the intensity profile occurs before the traffic parameter (e.g. speed) extraction process.

Because Ng does not teach distinguishing vehicles from reflections based on tracks of the illumination patterns in a series of images, the applicant respectfully maintains that the rejection of claims 22-24 under 35 U.S.C. 102(e) over Ng is unfounded, per MPEP 2131, and should be withdrawn.

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The Office action rejects claim 7 under 35 U.S.C. 103(a) over Ng and Cucchiara et al. ("Vehicle Detection under Day and Night Illumination"). The applicant respectfully traverses this rejection.

Claim 7 is dependent upon claim 1, and in this rejection, the Office action relies upon Ng for teaching the elements of claim 1. As noted above, Ng fails to teach each of the elements of claim 1. Accordingly, the rejection of claim 7 under 35 U.S.C. 103(a) that relies upon Ng for teaching the elements of claim 1 should be withdrawn.

In view of the foregoing, the applicant respectfully requests that the Examiner withdraw the rejections of record, allow all the pending claims, and find the application to be in condition for allowance. If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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